

**STORM DRAINAGE FACILITIES IMPROVEMENTS**

The Storm Drainage Facilities Improvements Program consists of four major components:

- The Storm Water Management Program (SWMP), which is to reduce the risk of structural flooding by protecting properties from flood damage during a 100-year (1% probability) rainfall event. The program targets local drainage systems and integrates with the primary drainage channels and bayous, which are the responsibility of the Harris County Flood Control District (HCFCD). The FY2006-2010 SWMP projects include the drainage improvements in the TMC as well as seven other projects. This includes: Rustling Oaks and Fonn Villas; Kirkwood and Briar Forest; Whiteheather; Edloe; Sherwood Oaks/Sherwood Estates/Brittmore Village; Yorkshire and Nottingham; and Kirby Relief Phase II. These SWMP projects total approximately \$130 million.
- The Localized Drainage Improvements Program, which consists of small drainage improvement projects, typically less than \$500,000. There is a backlog of small drainage issues which when resolved can protect many homes from structural flooding. In many cases one section of pipe, a missing overflow section, or inadequate inlets are the only improvements needed to solve the problem. A quick solution will resolve the problems of an otherwise adequate system. On-call engineering and construction contracts will be used to address these problems quickly and cost effectively. The FY2006-2010 program totals approximately \$14 million.
- The Comprehensive Drainage Plan (CDP), which prioritizes projects based on specific criteria such as the number of reported structural flooding incidents and repetitive loss properties, has identified approximately \$1.6 billion of inadequate systems in the City to be upgraded. This program prioritizes, scopes, designs, and constructs solutions to the inadequacies identified for this long-term program.

The projects selected to start this program have the highest numbers of flood-damaged properties by drainage area. Each project will be designed to keep the localized drainage in the piping or street sheet flow system to protect the structures from flooding during the 100-year rainfall event. Properties within a riverine 100-year flood zone will be protected from local drainage flooding, but may not be protected from the riverine flooding until the Harris County Flood Control District projects are completed. Funding for these projects total approximately \$100 million.

- Street reconstruction projects sponsored by TxDOT require the local sponsor (City of Houston) to pay for storm drainage improvements associated with its street reconstruction projects. The FY2006-2010 program has identified approximately \$8.8 million to support these projects.

Projects supported by Community Development Block Grants (CDBG) funding include \$4 million in FY2006 and \$4 million in FY2007. Eligible projects identified for CDBG participation include Sunnyside Court (M-0217) and Lancaster Relief (M-0228). Funding levels of \$2 million in FY2006 have been established for each project, respectively. FY2007 projects include \$1million for Local Drainage Improvements Program (M-0126) and \$3 million for Sharpstown Storm Improvements.

In summary, the FY2006-2010 Storm Drainage Facilities Improvements Program totals \$261 million and is funded primarily by general obligation debt supported by a transfer from the Combined Utility Fund (Water and Wastewater Enterprise Fund). Other funding sources include \$21 million in grant funds (CDBG and FEMA).

# 2006-2010 CAPITAL IMPROVEMENT PLAN

# CITY OF HOUSTON

| SOURCE OF FUNDS SUMMARY (\$THOUSANDS) |                                      |   |                                    |               |               |               |               |                |                |
|---------------------------------------|--------------------------------------|---|------------------------------------|---------------|---------------|---------------|---------------|----------------|----------------|
| Source of Funds                       | Appropriations through Dec. 31, 2004 | Estimated Appropriations Jan.1 - June 30 2005 | Fiscal Year Planned Appropriations |               |               |               |               | Total          | Total          |
|                                       |                                      |   | 2006                               | 2007          | 2008          | 2009          | 2010          | 2006-2010      |                |
| FEMA                                  | 27,095                               | 17,137  | 8,893                              |               |               |               |               | 8,893          | 53,125         |
| Tex Med Center Participation          |                                      | 5,000   |                                    |               |               |               |               | 0              | 5,000          |
| Prop. Ser-F Storm Sewer C.F.          |                                      |   |                                    |               |               | 50,000        | 50,000        | 100,000        | 100,000        |
| Proposed CDBG                         |                                      |   |                                    | 4,000         | 4,000         |               |               | 8,000          | 8,000          |
| Storm Sewer Cons. Const. Fund         | 63,620                               |   |                                    |               |               |               |               | 0              | 63,620         |
| Community Development Blk Grant       |                                      | 4,000   | 4,000                              |               |               |               |               | 4,000          | 8,000          |
| Accumulated Unexpended Fund           | 4,018                                |   |                                    |               |               |               |               | 0              | 4,018          |
| Ser-F Storm Sewer Const. Fund         | 2,325                                | 39,547  | 49,785                             | 45,284        | 45,000        |               |               | 140,069        | 181,941        |
| <b>Total</b>                          | <b>97,058</b>                        | <b>65,684</b>                                 | <b>62,678</b>                      | <b>49,284</b> | <b>49,000</b> | <b>50,000</b> | <b>50,000</b> | <b>260,962</b> | <b>423,704</b> |

## Storm Drainage Facilities

FY2006 - 2010 CAPITAL IMPROVEMENT PLAN  
(\$THOUSANDS)

| CIP NO. | COUNCIL DISTRICT | PROJECT NAME | FY2006 | FY2007 | FY2008 | FY2009 | FY2010 | TOTAL<br>FY2006 - 2010 |
|---------|------------------|--------------|--------|--------|--------|--------|--------|------------------------|
|---------|------------------|--------------|--------|--------|--------|--------|--------|------------------------|

### Storm Drainage Facilities

|        |     |  |          |         |         |         |         |          |
|--------|-----|--|----------|---------|---------|---------|---------|----------|
| M-0126 | VAR | LOCAL DRAINAGE IMPROVEMENT PROJECTS                          | 2,000 DC | 2,000 C | 3,000 C | 3,000 C | 3,000 C | 13,000DC |
| M-0186 | I   | CENTRAL PARK SUBDIVISION RELIEF LATERALS                     | 6,325 C  |         |         |         |         | 6,325C   |
| M-0189 | CG  | DUNVALE-LIPAN RELIEF STORM SEWER                             | 575 C    |         |         |         |         | 575C     |
| M-0209 | A   | SHERWOOD OAKS, SHERWOOD ESTATES AND BRITTMORE VILLAGE        |          | 426 D   |         | 2,133 E |         | 2,559DE  |
| M-0217 | D   | SUNNYSIDE COURT STORM SEWER LATERALS                         | 4,600 C  |         |         |         |         | 4,600C   |
| M-0220 | ALL | SWMP: PROGRAM MANAGEMENT AND TECHNICAL SERVICES              | 2,500 D  | 2,500 D | 2,500 D | 2,500 D | 2,500 D | 12,500D  |
| M-0228 | I   | LANCASTER RELIEF STORM SEWER                                 | 4,200 C  |         |         |         |         | 4,200C   |
| M-0230 | G   | KIRBY RELIEF STORM SEWER (RIVER OAKS)                        | 650 D    |         | 7,200 C |         |         | 7,850DC  |
| M-0241 | VAR | STORMWATER PUMP STATION IMPROV. AT VAR. UNDERPASSES          | 2,700 C  |         |         |         |         | 2,700C   |
| M-0247 | G   | YORKSHIRE AND NOTTINGHAM STORM SEWER IMPROVEMENTS            |          |         | 5,500 C |         |         | 5,500C   |
| M-0248 | G   | WILCHESTER, MEMORIAL WAY, & MEMORIAL TRAILS DRAINAGE IMPROV. | 5,500 C  |         |         |         |         | 5,500C   |
| M-0249 | G   | RUSTLING OAKS & FONN VILLAS SUBDIVISION STORM SEWER IMPROV.  |          |         | 3,000 C |         |         | 3,000C   |

LEGEND:      A = ACQUISITION      D = DESIGN      C = CONSTRUCTION      E = EQUIPMENT      O = OTHER      R = ART

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FY2006 - 2010 CAPITAL IMPROVEMENT PLAN  
(\$THOUSANDS)

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**Storm Drainage Facilities**

|        |       |  |         |         |          |          |          |          |
|--------|-------|--|---------|---------|----------|----------|----------|----------|
| M-0250 | G     | KIRKWOOD BRIAR FOREST DRAINAGE IMPROVEMENTS                |         |         | 450 D    |          | 3,000 C  | 3,450DC  |
| M-0253 | C     | EDLOE STREET AREA (BRAESWOOD PLACE) STORM SEWER RELIEF     |         | 2,500 C |          |          | 2,700 C  | 5,200C   |
| M-0255 | C     | BRAES BLVD. AND ACADEMY ST.: NEW STORM DRAINAGE TRUNK LINE |         | 600 D   | 2,700 C  | 2,500 C  |          | 5,800DC  |
| M-0256 | CF    | SHARPSTOWN STORM SEWER IMPROVEMENTS                        | 3,328 C | 2,000 C | 1,000 C  |          |          | 6,328C   |
| M-0257 | H     | WOODLAND HEIGHTS STORM SEWER IMPROVEMENTS                  |         | 6,779 C |          |          |          | 6,779C   |
| M-0260 | C/D   | TEXAS MEDICAL CENTER DRAINAGE IMPROVEMENTS                 | 3,271 C | 1,852 C |          |          |          | 5,123C   |
| M-0261 | G     | BUFFALO BAYOU DETENTION POND                               |         | 1,270 C |          |          |          | 1,270C   |
| M-0262 | D     | WHITEHEATHER STORM SEWER IMPROVEMENTS                      |         |         | 4,600 DC | 3,600 C  | 4,000 C  | 12,200DC |
| M-0263 | G     | SHERWOOD FOREST STORM SEWER SYSTEM                         |         | 300 D   | 5,000 C  |          |          | 5,300DC  |
| M-0265 | C,F   | WESTMORELAND, SHARSPTOWN, BRAEBURN, MAPLEWOOD              |         | 1,030 D | 1,030 D  | 5,766 DC | 5,766 DC | 13,592DC |
| M-0266 | E     | KIRKWYN, SAGEMONT PARK                                     |         |         | 1,409 C  |          |          | 1,409C   |
| M-0267 | C,D,G | RIVER OAKS   |         | 767 D   | 767 D    | 4,296 DC | 3,529 C  | 9,359DC  |

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(\$THOUSANDS)

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|---------|------------------|--------------|--------|--------|--------|--------|--------|------------------------|

**Storm Drainage Facilities**

|        |     |  |       |       |         |         |          |         |
|--------|-----|--|-------|-------|---------|---------|----------|---------|
| M-0268 | E   | GULF MEADOWS, KIRKWOOD, SOUTH SEGEMONT                   | 332 D |       | 1,528 C |         |          | 1,860DC |
| M-0269 | B   | CLAIRMONT PLACE  | 336 D |       | 1,546 C |         |          | 1,882DC |
| M-0270 | B   | LAKEWOOD ESTATES   |       |       | 300 D   |         | 1,103 C  | 1,403DC |
| M-0271 | C   | MEYERLAND EAST   |       | 306 D |         | 1,408 C |          | 1,714DC |
| M-0272 | D,E | CRESTMONT PARK, SOUTH ACRES                              | 310 D |       | 310 D   | 1,427 C | 1,427 C  | 3,474DC |
| M-0273 | I   | CAPISTRANO VILLAS, GLENBROOK VALLEY, HOLIDAY FOREST      |       | 405 D |         | 1,865 C |          | 2,270DC |
| M-0274 | H   | GLEN OAKS (NORTHLINE FROM CANINO TO I-45)                |       | 849 D | 849 D   | 3,903 C | 3,903 C  | 9,504DC |
| M-0275 | G   | LAKESIDE PLACE, VILLAGE WEST, ASHFORD VILLAGE            |       | 818 D |         | 3,763 C |          | 4,581DC |
| M-0276 | E   | SCARSDALE (ASTORIA FROM FLUSHING MEADOWS TO BINGHAMPTON) |       |       | 460 D   |         | 2,117 C  | 2,577DC |
| M-0277 | D,E | SOUTHPARK, SOUTHCREST                                    |       |       | 752 D   |         | 4,212 DC | 4,964DC |
| M-0278 | C   | UPPER KIRBY  |       |       |         | 5,750 C |          | 5,750C  |
| M-0279 | C   | MEYERLAND WEST   |       |       | 208 D   | 957 C   |          | 1,165DC |

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(\$THOUSANDS)

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|--------|-------|--|--|-------|---------|---------|---------|---------|
| M-0280 | G     | ASHFORD VILLAGE, NOTTINGHAM FOREST, BRAES VILLAGE        |  | 340 D |         | 1,564 C |         | 1,904DC |
| M-0281 | C     | MEYERLAND, WESTBURY                                      |  |       | 306 D   |         | 1,409 C | 1,715DC |
| M-0282 | B     | HOUSTON GARDEN, HOMESTEAD                                |  |       | 1,191 D |         | 5,477 C | 6,668DC |
| M-0283 | F     | CATALINA SQUARE, ROBINDELL                               |  |       | 389 D   |         | 1,791 C | 2,180DC |
| M-0284 | H     | GLEN OAKS (AIRLINE DRIVE FROM CANINO TO LITTLE YORK)     |  |       | 1,101 D |         |         | 1,101D  |
| M-0285 | A,H   | GARDEN OAKS, SHEPHERD FOREST                             |  |       |         | 887 D   |         | 887D    |
| M-0286 | B     | PLEASANTVILLE  |  |       |         | 756 D   |         | 756D    |
| M-0287 | A,H   | RIDGECREST, HILLEDAHL ACRES, MONARCH OAKS, AFTON VILLAGE |  |       |         | 714 D   |         | 714D    |
| M-0288 | I     | EDGEBROOK, EASTHAVEN                                     |  |       |         | 816 D   |         | 816D    |
| M-0289 | D     | HOLLOWAY HEIGHTS, ALMEDA-GENOA                           |  |       |         |         | 1,280 D | 1,280D  |
| M-0290 | C,D,I | FOURTH WARD, AVONDALE                                    |  |       |         |         | 1,093 D | 1,093D  |
| M-0291 | E     | FREEWAY MANOR, SAGEMONT                                  |  |       |         | 280 D   |         | 280D    |

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(\$THOUSANDS)

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|---------|------------------|--------------|--------|--------|--------|--------|--------|------------------------|
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|--------|-----|--|----------|---------|---------|---------|---------|---------|
| M-0292 | B   | TRINITY-HOUSTON GARDENS                                      | 750 D    | 6,000 C |         |         |         | 6,750DC |
| M-0531 | BH  | SOUTH OF LITTLE YORK FROM HARDY<br>TOLL ROAD TO HALLS BAYOU  | 11,800 C |         |         |         |         | 11,800C |
| M-0574 | E   | MONROE ALMEDA GENOA TO FUQUA                                 |          | 1,700 C |         |         |         | 1,700C  |
| M-0582 | E   | SOUTH SHAVER: GULF FREEWAY TO<br>HWY 3                       |          | 1,300 C |         |         |         | 1,300C  |
| M-0589 | A   | TANNER ROAD: HEMPSTEAD TO<br>BELTWAY 8                       |          | 2,100 C |         |         |         | 2,100C  |
| M-0596 | A   | BRITTMOORE:I-10 TO HAMMERLY STORM<br>SEWERS                  | 1,700 C  |         |         |         |         | 1,700C  |
| M-0597 | A   | BRITTMOORE: HAMMERLY TO CLAY<br>DETENTION POND               |          | 2,000 C |         |         |         | 2,000C  |
| M-0771 | C   | KIRBY DRIVE STORM IMPROVEMENTS: S.<br>W. FRWY TO BRAYS BAYOU | 10,068 C | 9,648 C |         |         |         | 19,716C |
| M-0800 | VAR | DEVELOPER PARTICIPATION                                      | 1,500 C  | 1,500 C | 1,500 C | 1,500 C | 1,500 C | 7,500C  |
| M-NA   | ALL | CONTINGENCIES  | 233 O    | 294 O   | 404 O   | 615 O   | 193 O   | 1,739O  |

TOTAL PLAN:

|        |        |        |        |        |         |
|--------|--------|--------|--------|--------|---------|
| 62,678 | 49,284 | 49,000 | 50,000 | 50,000 | 260,962 |
|--------|--------|--------|--------|--------|---------|

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